

CLAIMS

1. A recording medium comprising:

5 a digital stream and marker information, said marker information specifying a predetermined position in said digital stream, wherein:

said marker information includes attribute information relating to the predetermined position; and

10 the attribute information is used to indicate whether a playback device should refer to or ignore the predetermined position when a user operation intended to choose the predetermined position as a playback start position is received.

15 2. The recording medium of Claim 1, wherein said recording medium further comprises playback path information;

wherein:

said playback path information represents a playback path by arranging therein at least one pair of indications, each of 20 the at least one pair of indications providing an indication of a playback start position and a playback end position in said digital stream, and specifying a playback section included in the playback path; and

the predetermined position is represented by an identifier 25 of the playback section and time information relating to said digital stream corresponding to the playback section.

3. The recording medium of Claim 1, wherein
in a case where the attribute information indicates that
the playback device should ignore the predetermined position,
5 the predetermined position is a branch target position targeted
by a branching command recorded on said recording medium.

4. The recording medium of Claim 3, wherein
said digital stream is multiplexed with a video stream,
10 an audio stream, and a graphics stream;
the graphics stream includes graphics data constituting
a graphical button, and state control information defining a
state transition of the graphics data; and
the branching command is included in the state control
15 information and executed when the graphical button is activated.

5. The recording medium of Claim 1, wherein the user operation
is (i) a skip operation for choosing an adjacent position of
a current playback position or (ii) a chapter search operation
20 for choosing a chapter.

6. A playback device comprising:
a reading unit operable to read, one by one, each section
of a digital stream recorded on a recording medium;
25 a playback unit operable to play the read section; and
a control unit operable to control said reading unit to

perform a cue-up operation;

wherein the recording medium has at least one piece of marker information recorded thereon, each of the at least one piece of marker information is used to indicate a predetermined position in the digital stream and includes attribute information relating to the predetermined position; and

wherein when a user operation intended to choose a playback start position is received, said control unit is operable to perform the cue-up operation by ignoring a position having a first attribute and referring to a position having a second attribute, the first and second attributes being indicated by the at least one piece of marker information.

7. The playback device of Claim 6, wherein:

playback path information is recorded on the recording medium;

the playback path information represents a playback path by arranging therein at least one pair of indications, each of the at least one pair of indications providing an indication of a playback start position and a playback end position in the digital stream, and specifying a playback section included in the playback path;

each of the at least one piece of marker information includes an identifier and time information relating to a playback section; and

the reference by said control unit at a time of the cue-up

operation is performed with use of the time information, targeting the digital stream in which the playback section corresponding to the identifier is defined.

5 8. The playback device of Claim 6, wherein:

the cue-up operation by said control unit includes a cue-up by the user operation and a cue-up by a branching command; and at a time of the cue-up by the branching command, said control unit refers to the at least one piece of marker information

10 having the first attribute.

9. The playback device of Claim 8, wherein:

the digital stream is multiplexed with a video stream, an audio stream, and a graphics stream;

15 the graphics stream includes graphics data constituting a graphical button and state control information defining a state transition of the graphics data; and

the branching command is included in the state control information and executed when the graphical button is activated.

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10. The playback device of Claim 6, wherein:

the user operation is for inputting a chapter number that indicates a search target;

25 the reference by said control unit is for specifying, when an at least one piece of marker information corresponding to the inputted chapter number has the second attribute, a position

indicated by the at least one piece of marker information as a playback start position;

the ignoring by said control unit is for specifying, when the at least one piece of marker information corresponding to 5 the inputted chapter number has the first attribute, a position indicated by a succeeding one of the at least one piece of marker information having the second attribute.

11. The playback device of Claim 6, wherein:

10 the user operation is for inputting a skipping direction; the reference by said control unit is for specifying, when an at least one piece of marker information corresponding to 15 an immediately preceding or immediately succeeding position of a current playback position has the second attribute, a position indicated by the at least one piece of marker information as the playback start position; and

the ignoring by said control unit is for specifying, when the at least one piece of marker information corresponding to the immediately preceding or immediately succeeding position 20 has the first attribute, a position indicated by a preceding or succeeding one of the at least one piece of marker information having the second attribute as the playback start position.

12. The playback device of Claim 10 or Claim 11, wherein:

25 playback path information is recorded on the recording medium;

the playback path information represents a playback path by arranging therein at least one pair of indications, each of the at least one pair of indications providing an indication of a playback start position and a playback end position in the 5 digital stream, and specifying a playback section included in the playback path;

each of the at least one piece of marker information includes an identifier and time information relating to a playback section; and

10 the reference by said control unit at a time of the cue-up operation is performed with use of the time information, targeting the digital stream in which the playback section corresponding to the identifier is defined.

15 13. A recording method for a recording medium, said recording method comprising:

creating application data;

recording the created application data on the recording medium, wherein:

20 the application data includes a digital stream and marker information specifying a predetermined position in the digital stream;

the marker information includes attribute information relating to the predetermined position;

25 the attribute information is used to indicate whether a playback device should refer to or ignore the predetermined

position when a user operation intended to choose a playback start position is received.

14. A computer program for enabling a computer to play a
5 recording medium, said computer program comprising code operable
to cause the computer to perform:

a reading, one by one, of each section of a digital stream recorded on the recording medium;

a playing of the read section; and

10 a controlling of said reading to perform a cue-up operation;

wherein the recording medium has at least one piece of marker information recorded thereon, each of the at least one piece of marker information indicating a position in the digital 15 stream and including attribute information relating to the position;

wherein when a user operation intended to choose a playback start position is received, said controlling performs the cue-up operation by ignoring a position having a first attribute and 20 referring to a position having a second attribute, the first and second attributes being indicated by the at least one piece of marker information.

15. A playback method for a recording medium, said playback
25 method comprising:

reading, one by one, each section of a digital stream

recorded on the recording medium;

 playing the read section; and

 controlling said reading to perform a cue-up operation;

 wherein the recording medium has at least one piece of

5 marker information recorded thereon, each of the at least one
piece of marker information indicating a position in the digital
stream and including attribute information relating to the
position;

 wherein when a user operation intended to choose a playback

10 start position is received, said controlling performs the cue-up
operation by ignoring a position having a first attribute and
referring to a position having a second attribute, the first
and second attributes being indicated by the marker information.